

WHAT IS CLAIMED IS:

1. An actuator comprising a magnetic, resilient, shape memory member formed by a substance having a twin structure, and a magnetic field generator, at least part of said magnetic, resilient, shape memory member being disposed in a slanting magnetic field generated from said magnetic field generator such that said twin structure is reoriented by said magnetic field, whereby said shape memory resilient member is driven.
- 5 2. The actuator according to claim 1, wherein said twin structure is reoriented by stress generated in said slanting magnetic field.
- 10 3. The actuator according to claim 1, wherein said magnetic, resilient, shape memory member is located at a position at which there is the largest slanting magnetic field.
4. The actuator according to claim 1, wherein said resilient shape memory member is a coil spring or a plate spring.
- 15 5. The actuator according to claim 1, wherein said magnetic field is 20 kOe or less.
6. The actuator according to claim 1, wherein said substance having a twin structure is an Fe-Pd alloy.
- 20 7. The actuator according to claim 1, wherein said actuator is driven around the martensitic transformation-starting temperature Ms of said substance having a twin structure.
8. The actuator according to claim 1, wherein said magnetic field generator is disposed at both ends of said magnetic, resilient, shape memory member.